BROOKHAVEN BULLETIN
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BROOKHAVEN NATIONAL LABORATORY

Hollaender Wins Fermi Award

Alexander Hollaender, a consultant to BNL's Biology Department, will receive the 1983 Enrico Fermi Award. He will share this, the U.S. Department of Energy's highest scientific award, with John H. Lawrence, professor and director emeritus of the Donner Laboratory at the University of California at Berkeley. They will each receive a Presidential citation, a gold medal and $25,000.

Both are credited with laying "the foundations for understanding the effects of radiation on biological systems and the subsequent application of this knowledge to medical treatment."

Hollaender is cited, in particular, for "his unique role in the creation of the field of radiation biology; for his leadership as Director of the Biology Division of Oak Ridge National Laboratory; for his promotion of scientific exchange between the United States and many less-developed countries; and for scientific discoveries that first pointed to the nucleic acids as the genetic materials and to the existence of repair mechanisms."

Beginning in the 1930s, he did pioneering research on ultraviolet and ionizing radiation-induced damage and its repair to biological systems. In recognition of his scientific achievements, Hollaender was elected to the National Academy of Sciences in 1957. Under his direction from 1946 to 1966, the Biology Division of ORNL became the world center for radiation biology. It was he who emphasized nucleic acids as the biological research to be investigated.

He was one of the principal organizers of two important scientific societies, the Radiation Research Society and the Environmental Mutagen Society, and their international counterparts.

Hollaender has been associated with BNL for ten years as a consultant to the Biology Department and has his offices at Associated Universities, Inc. in Washington, D.C. Richard Setlow, chairman of the Biology Department, who worked with Hollaender at Oak Ridge, praised his colleague: "Alexander Hollaender is unique in the present scientific world. His areas of expertise extend from radiation biology to genetic engineering to biotechnology. He continues, in his 85th year, to help organize symposia and workshops on environmental problems and on new exciting areas in modern biology."

Another long-time colleague, Associate Director Victor Bond, said, "Alexander Hollaender is widely recognized as having contributed more than any other individual to the fields of radiation biology, molecular biology, and cell biology. He has always displayed an uncanny ability to identify areas for investigation that are most likely to provide the greatest pay-off in terms of fundamental knowledge and understanding."

Lab Director Nicholas Samios paid tribute to Hollaender and also singled out the Biology Department: "This award, together with the recent Nobel Prize to Barbara McClintock who did her field work as a research collaborator at Brookhaven, brings great honor to the Laboratory's Biology Department."

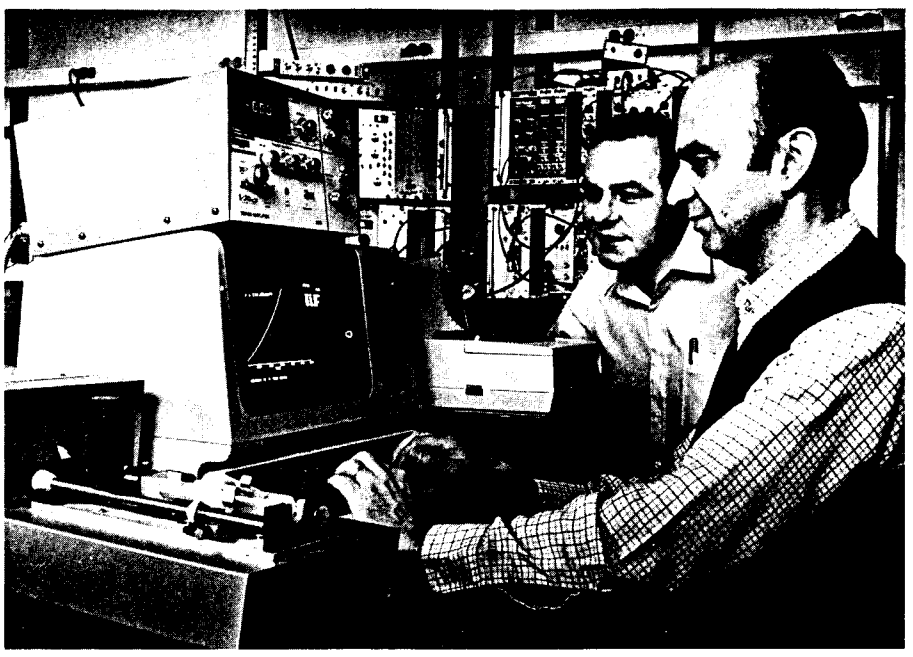
Pick A Student

Completed applications for the 1984 Summer Student Program will be available for review at the Office of Academic Relations, 2nd floor, Bldg. 460, from February 21 to March 5.

Staff members are invited to review applications to select students to work under their supervision from June 4 to August 17. Guidelines regarding the selection of students have been distributed to department offices.

Alex Reben

From left, Richard DeIasi, Grumman; Allen Goland, BNL's Department of Applied Science; Arthur Lindemanis, Combustion Engineering Corporation; and Herbert Carleton, SUNY/Stony Brook, were among the 48 participants in the Workshop on Collaborative Research in the Materials Sciences, held at Berkner Hall on February 1. The workshop brought together university, industry and government laboratory scientists to discuss collaborative research in ion and photon beam modification and analysis of materials, using BNL and SUNY/Stony Brook staff and facilities. One of the keynote speakers, Allen Goland, listed the BNL facilities and hardware already in place or planned for doing this work, including an x-ray microprobe beam line at the National Synchrotron Light Source, the Tandem Van de Graaff accelerators, the 3.5-MV Van de Graaff, a 200 kilovolt ion implanter, and the High Flux Beam Reactor. The morning session focused on industrial materials problems in such industries as aerospace, automotive, orthopedics, chemical, steel and semiconductors. In the afternoon, individual researchers from BNL and SUNY/Stony Brook reported on their work in ion and photon beam modification and analysis of materials. Later in the day, the group discussed modes of collaborative research, funding, users organization and patent and legal aspects with Martin Blume, BNL Associate Director; Robert Schneider, Associate Vice-Provost for Research at SUNY/Stony Brook; and Margaret Bogosian, BNL patent lawyer. At the conclusion of the workshop, the participants saw the need for a BNL and SUNY/Stony Brook materials sciences users program. A follow-up meeting was planned, to put together a steering committee from the industrial community.



Alex Reben

Jon Hanson (right) works on an advanced computerized version of the radiopharmaceutical delivery system invented and recently patented by Richard Lambrecht (background) and colleagues in the Chemistry and Medical Department. Part of the delivery system is a syringe (foreground) which is controlled by the computer to inject radiotracers into a subject for blood flow measurement by computerized tomography.

An Invention For Blood Tracer Studies

A recent invention at Brookhaven may have important applications in computerized tomography, especially positron emission tomography (PET) being done at Brookhaven and at several medical research centers worldwide. The invention may also apply to xenon-enhanced CAT scans and, possibly, NMR tomography.

U.S. Patent #4,409,966 was issued for a method and device for injecting radiotracers into a subject for blood flow measurement by computerized tomography. What is unique about this radiopharmaceutical delivery system is that the arterial blood concentration of the tracer follows a preselected mathematical function. Such controlled information is required for research in the kinetics and modeling of physiological processes.

Richard Lambrecht, Louis Ducote and Charles Duncan of the Chemistry Department, and Gerald Bennett in the Medical Department were collaborators on the patented invention. Later, Lambrecht worked with Jon Hanson and Francis Lepera, Applied Math, to develop a more advanced computerized version.

A prototype instrument has been in use at BNL for almost three years, first with PETT III and now at the New York University/BNL PETT VI facility, under the direction of Alfred Wolf, Chemistry Department. Chyng-Yann Shiue, in the radiopharmaceutical chemistry program, collaborates on the synthesis of organic radiotracers used in animal research with the instrument and PET.

The device is designed to extract quantitative data on the instantaneous tissue concentration of the radiotracer, and to apply the PET and blood concentration data to a physiologic model of blood flow in the brain. Developing an understanding of the relationship of blood flow and metabolism under normal and pathological or altered physiological conditions is a long-term goal of BNL efforts.

The invention provides important information in studies of cerebral blood flow. Blood flows through different regions of the brain at different rates. The transient time of blood through the brain is three to seven seconds, whereas the PETT VI requires 30 to 120 seconds of data collection in order to obtain a quantitative distribution of the radioactivity.

The tracer is injected from a syringe hooked up to a servo-pump, which is controlled by a mini-computer. The system compensates for radioactive decay of short-lived radiotracers in the syringe and in the subject, and for physiological differences among subjects.

Research on this device is supported by the U.S. Department of Energy and partially by the National Institutes of Health.

Balsa Bridges Falling Down

From 10:14 a.m. Saturday, the time the first balsa wood bridge snapped, until 4:04 p.m. when the last model crackled, 137 bridges popped apart at a rate of one every two minutes in the 1984 BNL Model Bridge Building Contest last Saturday. Metallurgy's Instron stress tester, a screw-driven machine used to test strength of materials by exerting up to 2,200 pounds of pressure, "crushed the living daylights out of the bridges," says Marty Woodle, Accelerator. "The machine was the meany, not me. The kids looked at it as a contest between their bridges and the machine."

The bridge that won was a 39.19 gram balsa wood arch and truss combination built by David Berninger of Ridge, a junior at Longwood High School. Berninger's bridge held 1666.6831 times its own weight, the highest structural efficiency of the 93 qualified bridges in the contest. For first prize, Berninger won a Commodore Vic 20 computer.

During the contest, Woodle and Jim Cullen, Accelerator, centered the bridges on supports of the stress tester, and positioned the machine's loading plate above the bridges' roadbeds. The machine, operated by Don Horne and Carl Klamut, DAS, increased the load on the bridge until it could not carry any additional weight, or the bridge deflected by 1 1/2 inches.

From the load and the known mass of each bridge, Jackie Mirzadeh, PR, calculated the load/mass ratio and the bridge's placing, and displayed

(Continued on page 3)

Seated at the loom, Donna Trunk weaves for the benefit of Lester Corliss (from left) Art Committee member, visitors Margaret Williams and Phyllis Shreeve, and Art Committee chairperson Eleanor Dahl.

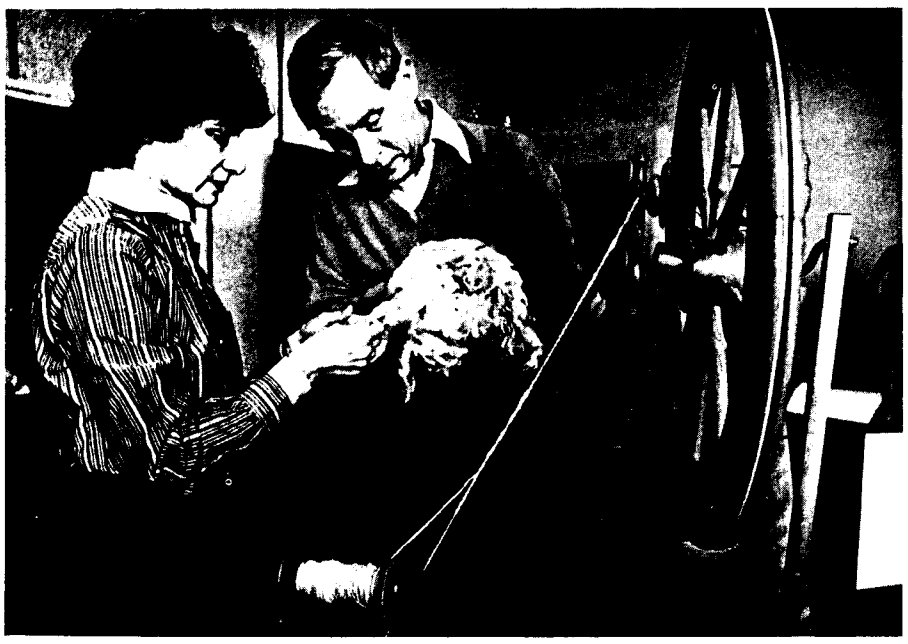
Wood carver Phil Miller shows Art Committee member Cheryl Jackson how he does it.

—photos by Reben

BERA Members Craft Exhibit

Open
11:30 a.m. - 1:30 p.m.
Through February 17

Room B
Berkner Hall



Vivian Aronson demonstrates the art of spinning to BERA Art Committee member Per Dahl.

Winner's Circle

Pat Andrisani, Supply & Materiel, is a second time winner. His latest suggestion involves modification of wagons that are used for moving materials around and between warehouses. By replacing stationary with removable bars on one side of the wagon, a considerable amount of unnecessary bending and lifting will be eliminated.

For this safety-related suggestion, Andrisani will receive $50. His first award was for a suggestion to recycle corrugated boxes.

Get the Bike Ready

With old man winter having a tight grip on this area, the idea of bicycle riding may not be your first priority. But time has a way of passing rapidly and, soon, you'll be rolling out the old two wheeler for a refreshing ride.

Then you'll remember that repair was needed and not taken care of during the winter months. But don't let this happen. The Supply & Materiel Division will be glad to pick up your bicycle, have it repaired and ready to ride. The service is free. To make arrangements, call Supply & Materiel supervisor, Fred Pond, Ext. 7238.

Diners Note

The Center Club will be closed on February 19, the day preceding Washington's birthday, and will reopen on February 20 at 5 p.m. The cafeteria will be open from 9 a.m. to 2 p.m. on February 18, 19 and 20. The vended food service in Bldg. 912 will be in continuous operation.

PSI News

The monthly meeting of PSI, Upton Chapter, will be held on February 15, at 6 p.m., Room C, Berkner Hall. Ronald Glickman, Assistant in Charge, New York State Department of Law, will speak on "Women's Rights in New York State." Visitors are welcome.

Investment Options Performance Summary

In February of 1982 Mutual Funds were added as investment options for voluntary employee tax-deferred contributions under the AUI retirement program. In order to provide Laboratory employees with information concerning the various investment opportunities available under the AUI retirement program, the Personnel Division compiled the performance records for the Fidelity and T. Rowe Price funds, and the TIAA-CREF regular and Supplemental Retirement Annuities.

Values as of 12/31/83, for monthly contributions of $100 Started 1/1/83 and 3/1/82

Past performance (hypothetical accumulations with dividends and capital gains reinvested and all expenses deducted). Security prices can fluctuate considerably and these yields should not be considered as representative of future earnings.

Date Contributions Commenced	1/1/83	3/1/82
Total Contributions	$1200	$2200
TIAA — CREF		
Regular (Non Cashable)		
TIAA	$1279	$2474
CREF	1274	2773
SRA (Cashable)		
TIAA*	$1259	$2437
CREF*	1255	2732
Fidelity Group Funds		
U.S. Government Reserves	$1257	$2391
Cash Reserves	1258	2404
Thrift Trust	1251	2479
Corporate Bond	1233	2469
High Income	1286	2727
Equity-Income	1281	2866
Fidelity Fund	1265	2852
Puritan	1324	2797
Discoverer (formerly called Asset Investment Trust)	1429	2869
Contrafund	1238	2648
Trend	1287	2786
Magellan	1310	3232
Select Portfolio		
Technology	1333	3662
Precious Metals	1169	2963
Health Care	1122	2610
Energy	1289	2610
Utilities	1310	2688
Financial Services	1358	2987
Freedom	N/A	N/A
Mercury	N/A	N/A
T. Rowe Price Funds		
U.S. Treasury Money Fund	$1252	N/A
Prime Reserve Fund	1259	$2404
New Income Fund	1206	2392
Growth & Income Fund	1320	N/A
Growth Stock Fund	1217	2578
New Horizons Fund	1195	2751
New Era Fund	1298	2782
International Fund	1408	2915

*The TIAA/CREF SRA accounts (which are cashable) require a front end load charge of 1-1/2% for each monthly contribution.

N/A = Funds not in existence for the full time period were excluded from this comparison.

Africa as the Source?

Yosef ben-Jochannan, adjunct professor at the Cornell University Africana Studies and Research Center, will deliver the second lecture of Black History Month at BNL when he speaks on "The African Origins of Western Civilization" in Berkner Hall on Tuesday, February 14, at 7 p.m. "I am going to show that the philosophy and religion, arts and sciences, and laws and culture labeled European are actually African," says Jochannan, a former specialist in east African anthropology at UNESCO. "I will prove that Africa is the source from which much of Western culture developed." Jochannan will illustrate his talk on Africa's contribution to the cultural development of the Western world with slides of African artifacts. "These pictures will verify my talk, and will demonstrate that the sources of my research are accessible to anyone interested in African anthropology and history, not just scholars." Admission to the talk, sponsored by the Afro-American Culture Club, is free.

On Saturday February 25 at 8 p.m., the **Adelphia Repertory Touring Company** will present "Sizwe Bansi is Dead," a story about the South African apartheid system by Athol Fugard. The main character is a black man struggling for personal freedom against racist political practice.

Yosef ben-Jochannan

Tickets are $5 per person, and available at the BERA Sales Office in Berkner Hall, from Kay Hunt in Personnel, and at the Affirmative Action Office. Or you may purchase your tickets through the mail by sending a check made out to BERA, and a self-addressed envelope to AACC, Box 441, BNL, Upton, New York 11973.

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Theater Group

The Theater Group will gather at 8
Tonight, in the North Room,
So make it a date.

A story of lovers, some young and some old,
(It's set in a "Bus Stop")
Will there be retold.

You all are invited to come and take part
As readers or listeners —
'Twill gladden your heart!

Microcomputer Club

The Sanyo PC, which is IBM-compatible but costs only $900, will be demonstrated on Thursday, February 16, from noon to 1 p.m. in the Biology library (Bldg. 463). Bring IBM software to find out just what "compatible" means. Also, the Dimension micro will be shown which is 68000 based and claims to run all Apple, IBM and CPM programs. Contact Jim Hainfeld, Ext. 3372, for further information.

MICOM Meeting

The next meeting of the MICOM Users' Group will be on Wednesday, February 15 at 3 p.m. in the conference room of Bldg. 179A, Department of Applied Science. Please note the change in building. MICOM representative Ruth Stannish will be present and will discuss the sort program. For further details, call Isabelle Harrity, Ext. 3727, or June Martino, Ext. 2933.

Arrivals & Departures

Arrivals

Roland A. Brocke ..... Physics
Richard D. Gilbert ..... Chemistry
Larry S. Fareria ..... DAS
Elzbieta K. Kraszewska ..... Biology
Lisa T. Seymore ..... Reactor

Departures

This list includes all employees who have terminated from the Laboratory, including retirees:

Cynthia A. Ling ..... Biology
Catherine A. Van Noy ..... DNE

Bowling

Red/Green League
J. Cochrane rolled a 229, R. Larsen 225, C. Tomesch 211, C. Bohnenblusch 209/202, N. Tyler 206, E. Sperry 205, H. Marshall 205, J. Ferrante 205, J. Morris 202.

White League
High games were bowled by J. Pinelli 207, K. Griffin 183/198, J. Sheehan 198.

Purple League
K. Asselta had a 212, B. Barberich 209, E. Schwaner 204, J. Ferrante 204, J. Roesler 201, L. Wasson 198, M. Belligan 188, L. Petro 180.

Scotch Doubles

A Scotch Doubles Bowling Tournament is set for Sunday, March 4 at 2 p.m. at Port Jeff Bowl. At least one member of each team must be a BNL employee. Entries can be obtained at the BERA Sales Office located in the cafeteria. Those who need a partner should call John Connelly, Ext. 4639.

Bridges (Continued)

the individual results and rank order on video monitors using a computer program written by Bill Lynch, a local high school physics teacher. The program was revised by Frank McNulty and George Sintchak, Instrumentation, who also loaned their computer for the running of the contest.

The winning bridge did not necessarily have to hold the most weight; it had to support the most load per unit of its mass. However, Berninger's bridge held the most weight, 144.4 pounds, as well as had the highest load/mass ratio.

The only serious challenge to David's bridge was a 39.70 gm structure built by Larry Schneider, a senior at Syosset High School. It held 138.5 pounds, and therefore had a structural efficiency of 1588.1448. For Schneider's second place, he won a Timex Sinclair Computer with software. Syosset High School won a trophy for having the highest average efficiency ratio for their 25 bridges.

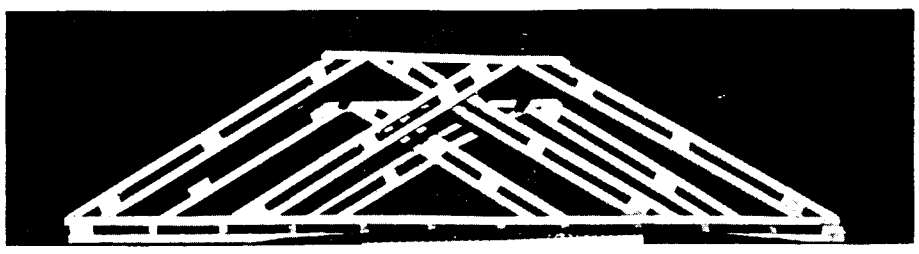
A ladder-like bridge having a structural efficiency of 1308.0803 placed John John of Westbury High School third, for which he won a Timex Sinclair Computer.

Of the 240 students who registered for the contest, 137 submitted bridges. Forty-four of those were disqualified prior to load testing by Mirzadeh and Janet Tempel, PR, contest coordinators for the fourth year of the BNL Contest. "The three primary reasons for disqualification were either the bridge was over 40 gms, a test vehicle could not be passed along the entire length of the bridge without obstruction, or the roadbed was higher than two inches from the bottom of the bridge," explains Tempel.

For the past three years, the Lab has allowed each high school to enter as many bridges as it wished. As a result of some teachers requiring their students to build bridges to pass the course, the BNL Bridge Contest was overloaded with bridges. "Last year, over 700 students registered to enter, and we received over 400 bridges," says Tempel. "On the day the bridges were due, school buses pulled up and unloaded bags and boxes full of bridges. This year, we limited the number of entries from each school to 25 bridges."

To give high school teachers a crash course in how to build balsa wood bridges, Woodle held an evening seminar last October for physics and industrial arts instructors. For this seminar, Woodle prepared a 27 page, illustrated manual entitled Balsa Wood Bridge Design without Fear or Splinters. "In the notes, I discuss such topics as statics, internal loads, and stresses, and I give examples that take you step-by-step through the bridge design process," explains Woodle.

The 1984 National Bridge Building Contest will be held for the first time at BNL on Saturday, April 14. The national contest is open to the 30 high school students who have won first or second place in one of the 15 regional bridge building contests during the 1983-84 school year. - Marsha Belford



The bridge selected for aesthetic merit was built by Thomas Johnson, a Patchogue-Medford senior, for which he won a Kodak disc camera. Judges Ralph Jones, DAS; Rajeshwar Yadav, PE; and Anne Baittinger, PR, chose the bridge because the form of the structure followed the function of the bridge's members.

Valentine Contest Winners

Because of the large number of entries, we decided to open our hearts and add another box of chocolates to the poetry prizes. Here then, are the four valentine messages which were expressed the best, and whose authors will each take home a box of chocolates:

For two years I have admired you from afar
And smiled at you when you drove past in your car.

When you came to my office on your break,
With all the transactions you needed to make,
We would hardly talk to each other at all
Until things changed for us this past fall.

And now, on March 24th we'll say "I do";
That's when I'll give my heart to you.

Happy Valentine's Day
Love,
Me

—Pat Angelillo

You're mine
You're mine
I love you Valentine.
You're sweet
You're sweet
You make me feel complete.
Pretty lady
Pretty lady
Happy Valentine's Day baby!

—Lamar Gardner

When my hair shall shade the snowdrift
And mine eyes shall dimmer grow
I would lean upon some loved one
Through the valley as I go.

I would claim of you a promise
Worth to me a world of gold
It is only this, my darling,
That you'll love me when I'm old.

Life's morn will soon be waning
And its evening bells be tolled
But my heart shall know no sadness,
If you'll love me when I'm old.

—Edward Pluta

Rip your heart off your sleeve; trim the raw edge with lace;
Wad any bleeding with sterilized cotton.
Add a deep-scented rose and stich rosemary in place --
That's for remembrance in case you'd forgotten.
Wrap up this disguise with a smooth satin bow,
Type a red velvet cliché like "Wilt thou be mine?"
Now go mail it, secure in that no-one can know
Just how wild leaps your passion for your Valentine.

—Liz Seubert

She'd been pierced by a dart
loosed by Cupid--
Friends were shocked
how her spirits had droopéd.
But on Valentine's Day
A lush card came to say
"Please be mine."
Boy, her drooped spirits whoopéd!

—Liz Seubert

Motorcycle Club

The February meeting of the club will be held on Monday, the 13th, at 5:15 p.m. at the Recreation Building.

Volleyball

Standings as of 2/6/84

Mixed League

A Division	
Dinkers	9-3
Teddybares	9-3
EPO's	7-5
Semi Tough	7-5
Up Fagrabs	6-6
Mixed Ups	5-7
Nuts and Bolts	3-9
TNT	2-10
B Division	
Servers	10-2
Phoubars	10-2
Bottoms Up	9-3
Excitons	4-8
Chungas Revenge	6-6
Screwballs	5-7
CRAW	2-10
Quirks	3-9

Singles Club

The regular monthly meeting of the Singles Club will be held Tuesday, February 14 at 5:15 p.m. in Room D, Berkner Hall. For information, call Chuck Watson, Ext. 5317.

Basketball

First Game:	Hollywood	68
	Runaway	49
Second Game:	Longshots	70
	Coasters	55

In the first game, solid performances were given by Eddie Meier (19 points) and Greg Mack (14 points) for Hollywood, while Gordon Smith and Herb Bell tried to keep Runaway on the right path with 18 and 10 points respectively.

In the second game, Leroy James hit with the short shots (24 points) and Jeff Gaffney hit with the long shots (23 points) to put the brakes on the Coasters. Attempts to put the Coasters in high gear were made by Bob Doty (14 points) and Ed Taylor (13 points), but came up short.

Stony Brook Events

Feb. 13 8-10 p.m.	Israeli Folk Dancing. Stony Brook Union Ballroom. Tickets $1.
Feb. 15 8:30 p.m.	"A Congressman Looks at National Security and International Affairs." Congressman Tom Downey. Arms Control, Disarmament and Peace Studies Resource Center, Old Chemistry Lecture Hall.
Feb. 17 7:30-8:30 p.m.	"Ship Ashore! - Shipwrecks off Long Island." Slide show. Museum of Long Island Natural Sciences, main floor, Earth & Space Sciences Bldg. Fee $3.

NATIONAL ENGINEERS WEEK

Feb. 19-25, 1984

Cafeteria Menu

Week Ending February 17

Monday, Feb. 13

Beef noodle soup	(cup)	.65
	(bowl)	.75
Farmer's omelet & 1 veg.		1.85
Old fashioned beef stew on egg noodles		2.00
Hot Deli: Baked ham	(bread)	1.90
	(roll)	2.05

Tuesday, Feb. 14

Pepper pot soup	(cup)	.65
	(bowl)	.75
Pork chow mein on rice		1.95
Southern fried chicken & 1 veg.		1.95
Hot Deli: Italian beef sandwich	(bread)	1.95
	(roll)	2.10

Wednesday, Feb. 15

Lentil soup	(cup)	.65
	(bowl)	.75
Ham & potato au gratin & 1 veg.		1.85
Spanish macaroni & 1 veg.		1.90
Hot Deli: Beef & bean burrito		1.90

Thursday, Feb. 16

Turkey rice soup	(cup)	.65
	(bowl)	.75
Beef teriyaki on rice		2.15
Roast turkey w/stuffing & cranberry sauce		2.05
Hot Deli: Corned beef	(bread)	1.90
	(roll)	2.05

Friday, Feb. 17

Fish chowder	(cup)	.65
	(bowl)	.75
Macaroni & cheese w/1 veg.		1.85
Turkey à la king on rice		1.90
Hot Deli: Barbeque fresh ham	(bread)	1.90
	(roll)	2.05

Classified Advertisements

Placement Notices

The Laboratory's placement policy is to select the best-qualified candidate for an available position, with consideration given to candidates in the following order of priority: (1) present employees within the department, with preference to those within the immediate work group; (2) present employees within the Laboratory as a whole; and (3) outside applicants. In keeping with the Affirmative Action plan, selection decisions are made without regard to age, race, color, religion, national origin, sex, handicap or veteran status.

Each week, the Personnel Office lists new personnel placement requisitions. The purpose of these listings is, first, to provide open placement information on all non-scientific staff positions; second, to give employees an opportunity to request consideration for themselves through Personnel; and, finally, for general recruiting purposes. Because of the priority preference policy stated above, each listing does not necessarily represent an opportunity for all candidates. As a guide to readers, the listings are grouped according to the anticipated area of recruitment.

Except when operational needs require otherwise, positions will remain open for one week following publication date.

For further information regarding a placement listing, contact the Personnel Placement Supervisor, Ext. 2882.

LABORATORY RECRUITMENT: Opportunities for present Laboratory employees.

2007. SECRETARIAL POSITION - Requires AAS degree in secretarial science or equivalent and excellent typing and communication skills. Experience typing technical reports on a word processor necessary. Department of Applied Science.

2008. CLERICAL POSITION (part time 50%) - Requires excellent typing and a thorough background in the word processing of technical reports. Department of Applied Science.

2009. FIREFIGHTER - Previous substantial firefighter experience is required. Completion of New York State EMT course and possession of training certificate is highly desirable, if not, completion of course within one year is required. Must be willing to work shifts at the completion of a thirteen week training period. Safeguards and Emergency Services Division.

OPEN RECRUITMENT: Opportunities for Laboratory employees and outside applicants.

2010. REFRIGERATION AND A/C ENGINEER (3 positions) - Requires substantial experience shooting, repairing, installing and operating commercial/industrial air-conditioning and refrigeration equipment including steam absorption, centrifugal and helical screw refrigeration machines. Successful completion of refrigeration and A/C apprenticeship program or related course work is highly desirable. Must be available to work shifts as required. Plant Engineering Division.

2011. PHOTOGRAPHY AND GRAPHIC ARTS SPECIALIST - Requires 1-2 years' experience with Daconics or other shared logic word processing system. Photography and Graphic Arts Division.

2012. DESIGNER POSITION - Requires AAS degree in mechanical technology or equivalent and a minimum of 5 years experience in mechanical design fundamentals, including optical, vacuum and mechanical components. National Synchrotron Light Source Department. (Reposting of Job. No. 1920)

2013. CLERICAL POSITION - Requires substantial experience performing travel reservations and related functions. SABRE experience very desirable. Staff Services Division.

Autos & Auto Supplies

GERMAN AUTO PARTS - wholesale prices on new parts for VW, Porsche, Audi, BMW, and MB. Augie, 289-4211.

75 VETTE - a/c, p/s, p/b, p/w, T-tops, tru-spokes, am/fm cassette stereo, excel. cond., asking $9,000. 744-6892 eves.

TOYOTA PARTS - for ZTC, 1,600 cc engine, rebuilt water pump, alternator, voltage regulator, fan, etc., $50 for all. Don, Ext. 3511.

75 AUSTIN MERINA - 4 dr. sedan, 4 cyl., 4 spd., am/fm radio, good cond., $1,500 or best offer. Pan, Ext. 3536.

RADIO - Audiovox, pushbutton, am/fm stereo, $50. Sydell, Ext. 3389.

73 MONTE CARLO - 454, Turbo 400, tilt steering, swivel buckets, new springs, brakes, $2,200. 399-1157.

82 TOYOTA - 4x4 SR5, longbed pick-up, 15,700 mi., loaded, $8,000. Russ, 928-1209 after 6 p.m.

PARTS - early Buick or Jeep, V-6, blocks, heads, pistons, etc.; (2) 350 Chevy short blocks, both apart & need work, $50 ea. Bill S., Ext. 4434 or 399-6168.

81 KAWASAKI MOTORCYCLE - KX80, $425. Ext. 7145 or 286-9700.

77 MG MIDGET - $2,500 neg. Bill, 924-0121 after 6 p.m.

79 HONDA STATION WAGON - 4 spd., reg. gas, mint cond., asking $3,300. 289-8267 eves.

78 HONDA MOTORCYCLE - 400 cc, Hondamatic, new battery, custom seat, crash bar, excel. cond., $600. Ext. 2172 or 744-4386.

TIRES - (2) Bridgestone, steel belted radials, 175SR-14, excel. cond., $45 pr. Ext. 4758.

76 DATSUN B210 - 4 spd., radials, am/fm stereo, sports package, excel. in & out, $1,675. 586-2353.

82 HONDA MOTORCYCLE - XR200R, excel. cond., new rear tire, sprockets & chain, $1,100. Bill, Ext. 7145 or 286-9700.

SERVICE MANUAL - & wiring diagrams for 1977 Chevrolets, $10 for both. Tony, Ext. 7214.

76 COUGAR XR7 - am/fm radio, a/t, p/s, p/b, a/c, lt. blue, good cond. Joan, Ext. 2446 or 727-2930 eves.

74 VW CORVAN BUS - w/140 HP, Corvair eng., $3,000. Rich, Ext. 2965.

72 VOLVO 145 WAGON - many new parts, runs but needs work, must sell, $800. Amy, Ext. 2369 or 821-0754.

82 TOYOTA - 4 x 4 SR5, longbed pick-up, 15, 700 mi., loaded, $8,000. Russ, 928-1209 after 6 p.m.

76 CHEVY MALIBU CLASSIC - 87,000 orig. mi., new all weather radials, excel. running cond., $1800 firm. Donna, Ext. 2926 eves. or 744-3298 days/weekends.

69 FORD FAIRLANE - new tires, brakes, muffler, runs well, $575. 399-3712.

76 FURY - a/c, p/b, p/s, am/fm, V8, 318, velour interior, runs well, $700. Erik, 281-5565.

TIRES - 185R14, Michelin, ¼" tread, $10; 600-12 spare from Honda, unused, $10. Tom, Ext. 7196 or 286-2505.

TIRES - B78-13, mounted on Dart rims, excel. cond., $15 pr.; (1) 750-14, glass belted snow tire mounted on Pontiac rim, good cond., $5. Ext. 3354.

74 CHEVY WAGON - p/s, p/b, auto., runs well, reg. gas, $500. Jerry, Ext. 7427 or 475-5591.

72 VW SQUAREBACK - runs well, good transportation, $750. 286-1183 or 924-7238.

74 TOYOTA CELICA - new tires and brakes, body excel. cond., $1,900 firm. 727-2471 after 5 p.m.

80 CHEVY CAPRICE - 31K mi., 4 dr., air, like new. 734-7584.

78 PUCH MOPED - Class B, 100 mpg, silver gray, $475. 363-6845.

83 FORD F-100 PICK-UP - 7 mos. old, 10,000 original mi., 4 spd./O.D., dual gass tanks, stereo, $5,950. Ext. 3198.

73 DODGE WINDOW VAN - 6 cyl., auto., body excel., custom inside, extras, $1,400. Joe, Ext. 7961 or 722-3957 eves.

73 MOTOR HOME - Travel Mate, Chevy chassis, sleeps 6, many extras, asking $5,000. 878-6812.

60 DODGE PICK-UP - 200 series, 6 cyl., 4 spd., $450; Edelbrock C454 dominator manifold for big block Chevy w/rectangular ports, new, $80. 744-3577 after 5 p.m.

73 MINI MOTOR HOME - Ford Snapper, extras, mint cond., asking $7,500. 399-1579 after 5 p.m.

80 FORD CUSTOM F-100 PICK-UP - 6 cyl., p/s, 4 spd., new tires, clutch, brakes, mags, $7,000. 758-9380.

71 CHRYSLER NEWPORT - good cond., best offer. Rich, Ext. 4363 or 924-7238.

81 KAWASAKI LTD MOTORCYCLE - 440, black, $1,300. Greg, 289-6519.

63 GMC PICK-UP - 3/4 ton, $400. Frank, Ext. 7684 or 584-5933 after 6 p.m.

78 CHEVY - 2 dr., V6, no rust, no dents, one owner, lots of TLC, p/s, p/b. 298-8601.

74 CADDY COUPE - garaged, fully loaded, excel. cond., asking $2,000. Otto, Ext. 4248 or 331-1907 eves.

73 GREMLIN - 2 dr., white, sport look, 6 cyl., radio, a/c, good cond., best offer over $500. 924-3755.

70 FORD TORINO - p/s, p/b, new battery, starter, regulator, excel. running cond., make offer. Divadeenam, Ext. 5076.

Boats & Marine Supplies

JOHNSON MOTOR - 40 HP, completely rebuilt by dealer, w/14' Larson glass, $700 firm. Ext. 2939.

26' SAILBOAT - Hughes-Fin, keel, race/cruise equipped, quality construction throughout. Joe, Ext. 7961 or 722-3957 eves.

ANCHOR - 3 prong, 25 lb., 2½' long w/ring, $50. Bill, Ext. 3164, 751-1557 after 6 p.m.

Miscellaneous

HIKING BOOTS - Knapp, boxed, 10 EE, $20; green Colonial sofa, $75; green rug, 11 x 11, $25; crystal chandelier, $50. 289-8212.

DINING ROOM TABLE - & matching buffet w/mirror, antique oak, claw leg. 289-1003 after 6 p.m.

ART SUPPLIES - closeout, oil paints, brushes, canvases. 698-5046 after 6 p.m.

VENETIAN BLINDS - (2) 18"W, (1) 47"W, (1) 34"W, white, $5 ea.; wing chair, tweed, $5. 281-7844.

SWAG LAMP - basketball and hoop, for child's room, $7.50. Bill, Ext. 2878.

DRILL PRESS - Rockwell, 4 spd., bench type w/stand, ½" chuck, heavy duty, $160. John, 924-5012.

COLONIAL SOFA - & matching chair, earth tones, excel. cond., must see, $350. Deb, 286-4652 after 6 p.m.

SALTON YOGURT MAKER - 5 cup, instruction booklet, $6. 929-3566.

EXTERIOR WOOD DOOR - 4 lights, 2'6" x 6'8", $30; alum. storm/screen door, full view glass, 2'6" x 6'8", $25. Al, 744-3792.

STORAGE SHELVES - (3), $20 all; old library table, 20W x 53L x 30H, opens up, needs some work, $35. 878-6637.

ORBITAL SANDER - excel., $15; Norelco rotary razor, $10; Wilson T-2000 alum. tennis racket, $15. Joe, Ext. 4661.

CAMERA - 35 mm, Autorefex, T, Konica, $80. J. Nolan, Ext. 3084 or 744-1234.

LOVE SEAT - olive green and gold striped, excel. cond., orig. $400, asking $190. Ext. 3366.

FLUTE - Bundy, good cond., ideal for beginner, $60. 878-9418 after 6 p.m.

BELL & HOWELL SCHOOLS COURSE - Electronic Technology course, 8 volumes, $20. Dick, 878-1580.

ELECTRIC RANGE - 30", gold, $75. Dave, Ext. 4019 or 698-2256.

MAGNAVOX STEREO - console, am/fm, record player, walnut cabinet, excel. cond., asking $75. Ext. 2671 or 744-1354.

WROUGHT IRON RAILING - (2), heavy gauge for 4' stoop w/3 steps, $50. Alfred, 744-3792.

SOLAR H/W SYSTEM - Rheem Direct, 82 gal., elec. backup, 2-3x6 panels, new, $1,000. 267-6013.

COLD WATER STORAGE TANK - bonded glass, 3 months old, $30. 286-8751 after 6 p.m.

METRIC OUTSIDE MICROMETER - 0-100 mm w/4 anvils, 2 standards, in box, excel. cond., $10. Ext. 3354.

JACKET - misses size 6, red wool, elegant, never worn, orig. price $160, best reasonable offer. Janet, Ext. 2345.

COMBINATION CRADLE SWING & SEAT - Graco, excel. cond., $30. 941-4328.

GOWN - pale yellow, size 9, pleated, worn once, cost $75, now $40. 744-9677.

CONTEMPORARY LIVING ROOM SET - 1 couch, 2 chairs, 3 end tables, 1 coffee table, 2 lamps, $1,000. 363-2070 eves.

PLAYER PIANO - minus roll, upright, reflected strikers, woodgrain finish, asking $300. 281-0360.

FUR COAT - lamb, off-white natural, new, size M-L, $150. Ext. 7745.

CONTENTS OF LARGE APARTMENT - rugs, bdrm. furniture & miscellaneous, one owner. 475-6717 eves.

RECLINER - brown tweed, Herculon, like new, $150. Karen, Ext. 2950.

STOVE - all-nighter, 24 hrs. wood, $400; antique furniture: record player, $150; dresser w/4 drawers, 3 x 20, $160. 281-5605.

WASHER & DRYER - G.E., $25 ea.; humidifier, $25; l/r chairs, twin & club, $25 ea.; Wayne pump, $15, Sears snow blower, $25. Ann, 286-2280.

WOODGRAIN TABLE - 41"; green hide-a-bed; Vitamaster exercycle; Creative Playthings; wooden sink-stove. 751-7408 after 3 p.m.

RANGE - 30", gas, 6 to 8 mos. old, excel. cond., $300. 281-5605.

FUR COAT - Opossum & leather w/raccoon collar, 3/4 length, size 10-12, $300. 727-5527.

OAK LUMBER - mostly 2 x 4, some 2 x 6, mill cut, unplaned, cured 25+ yrs., excel. for furniture, decks, etc., $1.50 running ft. or best offer takes all. Adam, Ext. 5213.

CYMBALS - Zildjian, 18" light ride & 16" medium, thin crash, plus (1) Ludwig stand, mint, $165. Ext. 2364 or 929-8944.

BEDSPREAD - king size, cotton knit, gold w/fringe, 10 x 10', $10. Ext. 4602 or 722-4489.

DINING ROOM SET - Drexel, Italian Provincial, Fruitwood, breakfront, server, table, 6 chairs, mint cond., $1,900. Carol, 281-8552.

HAMMOND 2 ORGAN - manual, excel. cond., one owner; user Audio also. 475-6717 eves.

ATARI 2600 - w/attachments, 10 cartridges, Ms. Pacman, Phoenix, Pitfall & others, $120. Ext. 3105.

WELL PUMP - 3/4 HP; 42 gal. tank, both excel. cond. Bill, Ext. 4428.

DOBERMAN PUPS - AKC, blacks, reds, docked and cropped, complete. Bob, Ext. 3848.

GUITAR - Martin, 7-28, 3/4 size, excel. cond., lifetime warranty w/case, $650. 821-0137.

ADDING MACHINE - Sears, w/tape, like new, used to prepare taxes, $25. Ext. 7978, 878-0164 eves.

SHUFFLE BOARD SET - indoor, $50; alum. ladder, 16' extend to 32, $20; Singer sewing machine, desk type w/stool and drawers, $100. Bill, Ext. 3164, 751-1557 after 6.

Car Pools

HUNTINGTON STATION/MELVILLE - 3 person car pool seeking 4th. Ext. 4259.

BELLPORT - need individual to complete 4 person car pool, 8:30-5:00 p.m. George, Ext. 7654.

COMMACK/HAUPPAUGE - willing to join 3-4 man pool, 8:30-5:00 p.m. Gerry, Ext. 7544.

KINGS PARK/FORT SALONGA - need 1 or 2 riders. Eva, Ext. 7772.

RONKONKOMA - drivers to join 2 driver pool near LIE, Exit 59, 8:30-5:00 p.m. Victor, Ext. 2395.

Real Estate

Real Estate advertised for sale or rent is available without regard for the race, color, creed or national origin of the applicant.

For Sale

MORICHES - L-ranch, 3 bdrms., 2 baths, d/r, family room w/fireplace, large eik, l/r, attached garage, 3/4 acre, deeded water rights, 15 min. to Lab. Ext. 7978 or 878-0164 eves.

For Rent

MILLER PLACE - 1 bdrm. apt., kitchen/living rm., spare room, pri. entrance. Ext. 2537 or 473-1658.

PATCHOGUE - 2 bdrm. apt. w/7 closets, enclosed garage, near downtown, avail. April 1, 15 year occupancy by single tenant. Ext. 3602 or 475-6717 eves.

EASTHAM, CAPE COD - 4 bdrm. house, sleeps 8, 2 baths, washer/dryer, diswasher, deck, near beaches, June-Sept., $575/wk. 722-3865 eves & weekends.

BELLPORT VILLAGE - on bay, small apt., suitable for one person only. 286-8798.

MASTIC BEACH - 3 bdrm. ranch, attached garage, full basement, near shopping, $525. 281-4940 after 5 p.m.

YAPHANK - 3 bdrm colonial on Carmen's River (swim, fish, boating), quiet cul-de-sac, dr, lr, kit, bsmt, w/dishwashing machine and dryer, no pets. 924-3755.

Wanted

TO RENT - 1 bdrm. apt., close to Lab, reasonable rent. Nick, Ext. 3178 or 2110.

TRAINS - Lionel, American Flyer, accessories, any cond. brings good price. Carole, Ext. 3362 or 924-4097 eves.

HONDA ENGINE - 1969-1976, CB750, complete w/carbs. 654-2076 eves.

SMALL TRAILER - for Sunfish. 585-2123.

MUSICIANS - to join established chamber orchestra, interested wind & string players. 475-9294 or 286-9452.

TO RENT - 2 bdrm. apt. or house, util. included, (reasonable), within 20 min. to BNL. Ext. 2272 or 3925.

POST CEREAL FUN & FITNESS LABELS - send to C. Goldstein, Bldg. 515. Ext. 4169.

KEYSTONE, SAWYERS OR ANSCOMATIC ROTARY CAROUSELS - will trade for three Airequipt slide carousels or buy cheap. Ext. 5241.

Free

TV SETS - (2), need work, 13" B&W, Sanyo, 19" color, GE. Bill, Ext. 2878.

Lost & Found

GERMAN SHEPHERD - male, medium sized, floppy ears, choker collar, answers to Clancy. 473-1456.

Classified Ad Policy

Deadline is 4:30 p.m. Friday for publication Friday of the following week.

1. The Brookhaven Bulletin's classified section may be used only by active and retired Laboratory employees.
2. All items for sale or rent must be the advertiser's property.
3. Ads for material acquired for resale in association with a full or part-time business cannot be accepted.
4. Ads for the sale or trade of firearms will not be accepted.
5. Ads not carried because of space restrictions will be held for publication in the next issue.
6. Ads are run only once and must be resubmitted if they are to be repeated. One ad per person per week.
7. **Property for sale or rent cannot be accepted on this form. Special Real Estate Ad Forms are available at the office of the Brookhaven Bulletin, Building 134.**

☐ For Sale: Autos & Auto Supplies
☐ For Sale: Boats & Marine Supplies
☐ For Sale: Miscellaneous
☐ Car Pools
☐ Wanted
☐ Free
☐ Lost & Found

Please print your ad below in 15 words or less using one word per block. Include name and phone number to call.

Note: The following must be completed for your ad to appear.

NAME (Please Print) .....

Employee's Signature ..... Life No. ..... Ext. .....

Send to Brookhaven Bulletin, Building 134 (Ext. 2345)

Classified Ad Policy Deadline is 4:30 p.m. Friday for publication Friday of the next week.